



TITLE:

Proton-Proton Scattering at 50 MeV. (I)

AUTHOR(S):

Nishimura, K.; Sanada, J.; Hayashi, I.; Kobayashi, S.;
Worth, D. C.; Imada, H.; Ryu, N.; ... Hasai, H.; Nung,
S. B.; Hiradate, Y.

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RIGHT:

Elastic Scattering of Protons from B^{11} , Al, P, Co and Cu from 6 to 7.4 MeV

Kiichi KIMURA, Yoshiaki UEMURA, Ryutaro ISHIWARI, Jun KOKAME
Kiyoji FUKUNAGA, Akira KATASE, Jiro MUTO, Isao KUMABE
Hiroshi OGATA, Taro OHAMA and Yasuya OHMORI

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The energy dependence of the angular distributions of protons elastically scattered by the odd nuclei, B^{11} , Al, P, Co and Cu, was measured in the energy range from 6 to 7.4 MeV by using the 105cm Kyoto University cyclotron. No remarkable energy dependence of the pattern of the angular distributions was found in all the energy and angular ranges studied. It may be concluded that a less energy dependence of the angular distributions of protons elastically scattered by the odd nuclei is due to a less contribution of the compound elastic scattering and moreover a less energy dependence of the compound elastic scattering.

Proton-Proton Scattering at 50 MeV. (I)

K. NISHIMURA, J. SANADA, I. HAYASHI, S. KOBAYASHI,
D. C. WORTH, H. IMADA, N. RYU, K. FUKUNAGA,
H. HASAI, S. B. NUNG and Y. HIRADATE

Institute for Nuclear Study, University of Tokyo,
INSJ-45, December 1, (1961)

A systematic investigation of proton-proton interaction at a bombarding energy of about 50 MeV is very important in order to understand the behavior of nuclear forces, especially of the two-pion-exchange-potential type of nuclear force (K. Nishimura, *Genshikaku Kenkyu*, Vol. 5, No. 1 (1960) p. 146; N. Hoshizaki and S. Machida, *Soryushiron Kenkyu*, Vol. 22, No. 1 (1960) p. 16; S. Otsuki, R. Tamagaki and W. Watari, *Soryushiron Kenkyu*, Vol. 22, No. 1 (1960) p. 20). Because of this importance, a so-called "complete" experiment of proton-proton scattering at 52 MeV has been designed. For the first stage, the differential cross section for proton-proton scattering was measured, using the proton beam extracted from the INS 160cm Synchrocyclotron.